

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Robert M. Andres
Serial No.: 10/820,289
Filed: April 8, 2004
Group Art Unit: 3616
Examiner: Dunn, David R.
Title: VEHICLE SPEED RELATED ALGORITHM FOR AN INFLATABLE
RESTRAINT SYSTEM

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY BRIEF

The Examiner's response raises issues to which Appellant wishes to reply.

35 U.S.C. § 112 Rejections

Contrary to the Examiner's assertion, Appellant recites in the brief description of drawings that:

Figure 2 is a graphical representation of a speed related deployment discrimination of an impact event according to the logic of the present invention.

Furthermore,

[0019] Figure 2 is a graphical representation of the logic for determining if the vehicle is stationary or moving using vehicle speed information. The graph represents logic stored within the controller 14 for deployment of the air bag 18 in response to signals from the satellite sensor 16 and the vehicle speed sensor 24 utilized by the deployment algorithm. It should be understood that speed information is readily available from various vehicle instrumentation.

[0020] The vehicle speed information permits the controller 14 to determine if the vehicle is moving or stationary. The logic for deployment discrimination preferably relates the vehicle speed to a threshold for a period of time. If the vehicle speed is below a threshold (near zero mph) for a predetermined amount of time then the vehicle is considered to be stationary by the controller 14. If the vehicle speed exceeds a threshold then the vehicle is considered to be in motion. As illustrated in Figure 2, a speed less than 2 mph for 3 seconds indicates a stationary vehicle and a speed greater than 7 mph indicates a vehicle in motion. It should be understood that other thresholds will benefit from the present invention.

The Examiner apparently is ignoring the STATIONARY VEHICLE; MOVING VEHICLE identifiers which illustrate that the deployment algorithm identifies when the vehicle is stationary or moving with an associated sensitized or desensitized state independent of a crash event. That is in the desensitizer stationary state the control algorithm need only discriminate between relatively minor static abuse events (such as door slams, hammer impact, etc.) and relatively severe impact from other moving vehicles. When the vehicle is motion, however, there is less concern for a static abuse event such as door slams such that the deployment algorithm is sensitized to respond to an impact with a stationary object. Notably, this sensitivity adjustment occurs independent of a crash event which supports Appellant's features in claims 4, 5, 15 and overcomes the Examiner's rejections.

[0016] It is not possible for a stationary vehicle to crash into a stationary object. While stationary, the concern is only that other objects may contact the vehicle. In the desensitized or stationary state the control algorithm need only discriminate between relatively minor static abuse events (such as door slams, hammer impacts, etc.) and relatively severe impacts from other moving vehicles. Severe impacts from other moving vehicles while the vehicle is stationary are readily distinguishable from abuse events. When the vehicle is in motion, however, there is less concern for static abuse events such as door slams such that the deployment algorithm is sensitized to respond to an impact with a stationary object. Refined discrimination of such impact signals is particularly useful for side impacts.

The thresholds to which the Examiner refers are identified by the vertical lines which separates STATIONARY VEHICLE from MOVING VEHICLE above the graph line which represents vehicle speed as properly interpreted by the Examiner.

35 U.S.C. § 102(b) Rejections

Appellant wishes to note that *Okada* is a type of post collision crash determination. [Column 7, Lines 57-64]. *Okada* is a control for how the air bag deploys in response to a judgment as to a crash type. [Column 6, lines 47-51] This is further reinforced in that Claim 1 of *Okada* recites an acceleration sensor for detecting an acceleration applied to said vehicle **as result of a collision**. Thus, all of the operations of *Okada* are subsequent to a collision as Appellant previously discussed.

35 U.S.C. § 103(a) Rejections

The Examiner relied upon *Drummond* only for a multiple satellite sensors. *Drummond* does not rectify the fact that the *Okada* functions are performed post collision.

Respectfully Submitted,

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Dated: December 2, 2008